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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/304,298	05/03/1999	AUSTIN D. TAGGART II	TH1118	9493

7590

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EXAMINER

SHIPPEN, MICHAEL L

ART UNIT

PAPER NUMBER

1621

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/304,298

Applicant(s)

TAGGART ET AL.

Examiner

MICHAEL L. SHIPPEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 21-128 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-18, 21, 22 and 125-128 is/are allowed.
- 6) ☒ Claim(s) 23-124 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Claim Objections***

The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). As filed, the amendment of August 30, 2001 present two claims numbered 57 and two claims number 125.

Misnumbered claims 57(second occurrence) to 126 have been renumbered as claims 58-128 respectively. Applicants should amend any dependent claims that are not properly dependent upon the renumbered claims.

### ***Claim Rejections - 35 USC § 112***

Claims 40-43, 46-53, 55-62, 66 and 69-124 are rejected under 35 U.S.C. § 112, first paragraph. The limitations as to the ratio range reading on "or less" lacks description in the specification as filed. There is no basis in the specification as filed for the range embraced by "or less".

Claims 63-68 and 101-124 are rejected under 35 U.S.C. § 112, first and second paragraphs. There is no basis or description in the specification as filed for "an organic diluent having a density sufficiently less than a second density of said phenol bottoms

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stream to attract phenol from mixture into an organic phase". Also, the use of the term "second density" of said phenol stream does not make sense because there is no indication of a "first" density of said phenol bottoms stream. Furthermore, there is no indication in the specification that the density of the organic phase has any relationship to the attraction of the phenol. As such it cannot be determined what is within the purview of limitation "having a density sufficiently less ... to attract phenol from mixture into an organic phase".

Claims 77, 81, 82, 85, 86, 87, 97, 98, 101 and 103 are rejected under 35 U.S.C. § 112, fourth paragraph. These claims fail to properly further limit the parent claims since the ranges recited embrace values outside the range required in the parent claims.

Claims 73, 78, 83, 88, 93, 99 and 103 are rejected under 35 U.S.C. § 112, fourth paragraph. These claims fail to properly further limit the parent claims since the ranges recited are identical to the ranges cited in the parent claims.

### ***Double Patenting***

The sets of claims (55 and 73), (56, 74 and 78), (57, 75, 79 and 83), (58, 76, 80, 84 and 88), (60 and 93), (61, 94 and 99) and (62, 95 and 103) are substantial duplicates. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of

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the allowed claim. Applicant is advised that should a claim within a set be found allowable, the remaining claims in that set will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 102***

Claims 27, 28, 39-53, 55-62 and 69-124 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 5,847,235 in view of USP 5,510,543 for reasons of record. Applicants assert that the examiner has not pointed to a teaching in USP 5,847,235 of "a process for removing salts of neutralization present in a partially or wholly neutralized aralkyl hydroperoxide cleavage mass". First, this is not a requirement of the claims. Claim 27 requires removal of neutralized salts from the "crude phenol bottom stream". Most of the claims 39+ make no reference to salts at all. Second, as shown by USP 5,510,543 and well known in the art, substantially all of the salts of neutralization are removed in the production of phenol when the aqueous phase containing the salts is split from the organic phase immediately following the neutralization step, note for example splitter (4) of USP 5,510,543. That is, during the standard phenol production process that affords the tars used in the USP 5,847,235 process, the salts of neutralization have already been substantially removed. Third, USP 5,847,235 clearly teaches that salts are being removed. As to the claims that recited a specified amount of organic diluent, the claims recite that it can be present at the amount specified "or less". This reads on zero organic diluent. Also, this reads on the small amounts of

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organic diluents that are inherently present in the tars treated by the reference, such as acetophenone,  $\alpha,\alpha$ -dimethylbenzyl alcohol and  $\alpha$ -methylstyrene.

Claims 39-124 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 4,434,305, *newly cited*. The reference teaches manufacture of a phenolic compound (hydroquinone). A means for producing a crude phenol bottom stream (note the column bottom liquid at lines 5-6 of column 7) and means for recovery of phenolic compounds in an organic phase (note the methyl isobutyl ketone extraction of lines 17 and 18 of column 7). As to the addition of an organic diluent, the reference teaches that cumene may be added, note 41-42 of column 6 as well as the use of methyl isobutyl ketone cited above. While the reference may have additional or different processing steps than disclosed in applicants' specification, this is of no moment. The manner in which applicants have chosen to write these claims does not exclude the procedure used in the reference and does not require the procedure as set forth in the specification.

***Claim Rejections - 35 USC § 103***

Claims 23-124 are rejected under 35 U.S.C. 103(a) as being unpatentable over USP 5,847,235 and USP 5,283,376 optionally in view of USP 2,951,870 and USP 5,510,543 further optionally in view of USP 5,962,751 for reasons of record. Applicants assert that the examiner has not pointed to a teaching in USP 5,847,235 of "a process for removing salts of neutralization present in a partially or wholly neutralized aralkyl hydroperoxide cleavage mass". First, this is not a requirement of most of the claims as

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pointed out above. Second, as shown by USP 5,510,543 and well known in the art, substantially all of the salts of neutralization are removed in the production of phenol when the aqueous phase containing the salts is split from the organic phase immediately following the neutralization step, note for example splitter (4) of USP 5,510,543. That is, during the standard phenol production process that afford the tars used in the USP 5,847,235 process, the salts of neutralization have already been substantially removed. Third, USP 5,847,235 clearly teaches that salts are being removed. Reading applicants' response it would appear that applicants are suggesting that all of the salts of neutralization are carried in the crude phenol bottom stream. This is simply not the case. The salt present in the phenol bottom stream is residual salt that builds up and remain in the bottom stream. As pointed out above, most of the neutralization salts are removed in the aqueous phase of the during the neutralization phase. This is a standard step is phenol production. Applicants' claims read on this standard method of neutralizing known in the art. Also, reading applicants' response they imply that removal of salt from the residual tars of the primary references is somehow different from what applicants are doing. First, the crude phenol bottoms is exactly the same thing as the residual tars of the references. The residual tars of the references are obtain in exactly the same manner applicants obtain the "crude phenol bottoms". The fact that applicants give it a different name does not distinguish the claims from the prior art. The feature that distinguishes the instant claims from what is

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Michael L. Shippen** whose telephone number is **(703) 308-4635**. The Examiner's normal tour of duty is 7:30 AM to 4:00 PM. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is **(703) 308-1235**. The official group FAX machine number is **(703) 308-4556**.

MShippen  
July 19, 2002



**MICHAEL L. SHIPPEN**  
**PRIMARY EXAMINER**  
**ART UNIT 1621**